

Discovery of the spider *Ambicodamus marae* (Araneae: Nicodamidae) in the northern jarrah forest of Western Australia

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Abstract – The discovery of *Ambicodamus marae* Harvey, 1995, in jarrah forest near Jarrahdale, in the Darling Range of Western Australia is reported. This finding represents a northern range extension of over 250 km and reveals that *A. marae* is not limited to the extreme south-west of Western Australia as originally reported by Harvey (1995).

INTRODUCTION

Members of the family Nicodamidae are brightly coloured small spiders. They possess either a black, brown, purplish or iridescent blue abdomen, which is contrasted with a bright orange-red cephalothorax and bright red or yellow legs tipped with black (Harvey, 1995). They build small, tough sheet webs at ground level against stones, logs, and low vegetation (Clyne, 1969; Main, 1976; Browne, 1979). Nicodamids are found commonly in eucalypt forests of eastern, southern and western Australia (Clyne, 1969; Main, 1976).

In a review of the family, Harvey (1995) found *Ambicodamus marae* to be known only from the extreme south-west of Western Australia. Almost all specimens were collected between Bluff Knoll (Stirling Range National Park) in the east, Beedelup near Pemberton in the west, and directly south of these locations (Figure 1) (Harvey, 1995). Only three specimens had collection localities outside of this area; two from Geraldton and one from Mt Cooke (Figure 1). Harvey (1995) considered the Geraldton specimens to have been incorrectly labelled and their collection localities erroneous. The locality data of the Mt Cooke specimen was thought to be doubtful for two reasons (M.S. Harvey, pers. comm.). Firstly, *A. marae* was known only from the extreme south-west of Western Australia. In particular the limited area of high rainfall (> 1000 mm) on which karri forest (*Eucalyptus diversicolor*) predominates (Harvey, 1995). Secondly, despite extensive surveys of the Mt Cooke area during the early 1990's he was unable to relocate *A. marae* (M.S. Harvey, pers. comm.).

METHODS

Pitfall trapping of spiders was undertaken between 12–19 September 1997, at Alcoa of Australia Ltd.'s Jarrahdale minesite (32°17'S,

116°08'E) (Figure 1). The study site represented an area of unmined Open Forest (Specht, 1970) where mean annual rainfall exceeds 1200 mm. Jarrah (*Eucalyptus marginata*) and marri (*E. calophylla*) were co-dominant trees. An understorey of small trees (3–7 m) was present; mainly *Bauksia grandis*, *Persoonia longifolia* and *P. elliptica*. These overtopped other understorey species such as grass-trees (*Xanthorrhoea preissii* and *Kingia australis*), cycads (*Macrozamia riedlei*) and legumes dominated by the genera *Acacia*, *Bossiaea* and *Kennedia*. This site, last burnt nine years previously, had not been heavily disturbed by firewood harvesting or dieback, and is considered to be one of the least disturbed patches of forest surrounding the mine (J. Koch, Alcoa of Australia, pers. comm.).

RESULTS AND DISCUSSION

Forty-six adult male and two adult female *A. marae* were captured; no juveniles were present. A reference collection of six males and a female has been deposited in the Western Australian Museum (WAM 99/251–257).

The collection of *A. marae* from the study site described above reveals that *A. marae* is not limited to the extreme south-west of Western Australia. This finding represents a northern range extension of over 250 km. Furthermore, it suggests that the record of *A. marae* from Mt Cooke is likely to be valid since Mt Cooke is only 30 km south-east of the Jarrahdale minesite. However, Harvey's inability to relocate *A. marae* at Mt Cooke suggests that this population may be locally extinct (M.S. Harvey, pers. comm.).

Harvey (1995) suggested that *A. marae* occurs in high rainfall areas (>1000 mm) and listed the karri forest as suitable habitat. He also recorded *A. marae* from the Stirling Range outside the distribution of the karri forest (Churchill, 1968).

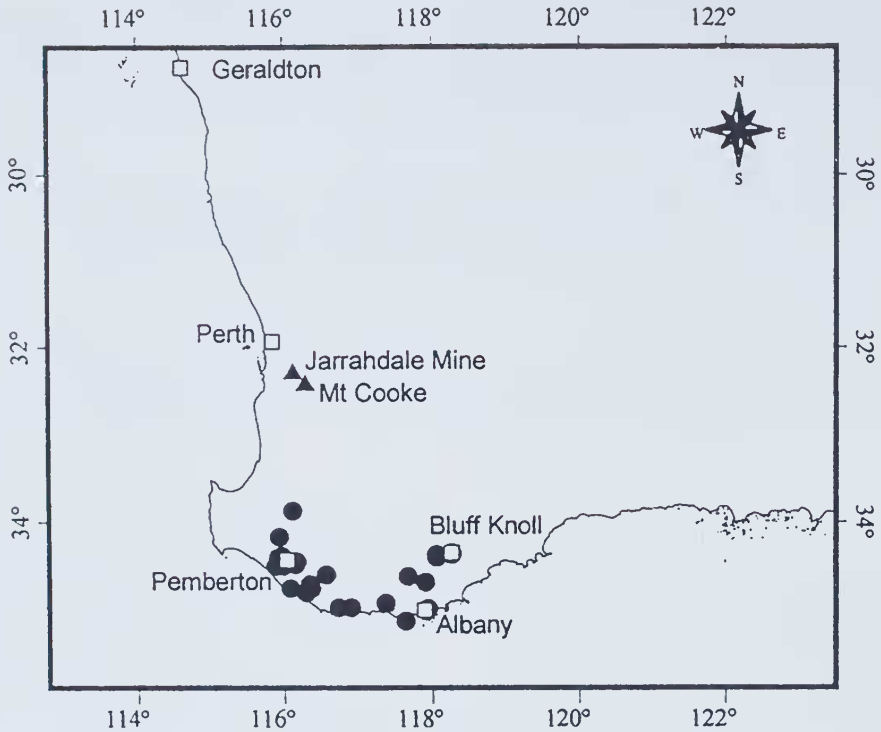


Figure 1 Distribution of *Ambicodamus marae* as considered by Harvey (1995) [●] plus the location of Jarrahdale Mine and Mt Cooke [▲].

These specimens, may represent records of *A. marae* from jarrah, marri and wandoo (*E. wandoo*) woodlands, or jarrah dominated mallee (Keighery and Beard, 1993). While rainfall at my study site also was >1000 mm, the vegetation community differed (from those listed above) in that it was jarrah forest. Thus, *A. marae* must now be considered to inhabit also a small area of high rainfall in the northern jarrah forest. Interestingly, extensive surveys to locate *A. marae* in high rainfall areas of karri forest between the western edge of the Darling Range and the west coast have proved unsuccessful (Harvey, pers. comm.). As such, the western boundary of *A. marae*'s distribution is considered to be the western edge of the Darling Range (Harvey, 1995). Hence, it is likely that *A. marae*'s distribution is influenced not only by rainfall but geomorphological factors.

CONCLUSION

Ambicodamus marae is not limited to the extreme south-west of Western Australia. Its distribution includes a population in northern jarrah forest surrounding the Jarrahdale minesite. As such, other areas of suitable jarrah forest within the Darling

Range should be investigated to determine whether the northern and southern populations of *A. marae* are isolated from each other.

ACKNOWLEDGEMENTS

I thank Mark Harvey for specimen identification, critical comments on the manuscript and figure 1. Helpful comments and suggestions were made by Jonathan Majer and Erich Volschenk, also. This research was funded by Alcoa of Australia Ltd. The following organisations generously provided access to the study site: Alcoa of Australia Ltd.; the Western Australian Department of Conservation and Land Management; and the Western Australian Water Corporation.

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Manuscript received 11 June 1998; accepted 3 March 1999.